



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/862,720

05/23/2001

David Di Huo

2925-0497P

1180

30594

7590

01/06/2006

HARNESSE, DICKEY & PIERCE, P.L.C.

P.O. BOX 8910

RESTON, VA 20195

EXAMINER

AGHDAM, FRESHTEH N

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/862,720	Applicant(s) HUO, DAVID DI	
	Examiner Freshteh N. Aghdam	Art Unit 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 May 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/22/2005 has been entered.

**Applicant's Argument:** In pages 4 and 5, applicant argues, the claimed invention is not suggested or taught by Andersson, "obtaining a sequence with a given repetition distance, the repetition distance being greater than zero and less than a given number of frequencies and being a minimum number of hops between two occurrences of the same frequency in a frequency sequence."

**Examiner Response:** Andersson teaches this limitation as it is evidenced in the table that presented by examiner used for rejection of claims 1-10 in the previous actions, wherein the repetition distance being greater than zero and less than a given number of frequencies and being a minimum number of hops between two occurrences of the same frequency in a frequency sequence (Col. 9, Lines 6-48; f0-f6).

### ***Drawings***

The drawings are objected to because elements of figure 1 should be labeled with descriptive text (37 C.F.R. 1.83(a); MPEP 6.08.02(b), Form Paragraph 6.22, Examiner's Note #1). [Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.]

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson (US 5,937,002).

As to claim 6, Andersson teaches a method of generating a frequency sequence comprising determining the number of hop frequencies ( $C_j$ , where  $j=j_m-j_l-j_h$ ), determining a specific sequence period and repetition distance, wherein the repetition distance being greater than zero and less than a given number of frequencies and being a minimum number of hops between two occurrences of the same frequency in a frequency sequence (Col. 9, Lines 6-48; cited table in the previous actions,  $\Delta t$  and  $f_0-f_6$ ), generating several frequency sequences ( $f_0-f_6$ ), and generating a matrix including the several frequency sequences (the cited table). One of ordinary skill in the art would clearly recognize that elements of the matrix are represented in vector form, which is a form of mathematical representation.

As to claim 7, Andersson et al disclose that the number of periods and channels (i.e. frequencies) are design choices (Col. 9, Lines 25 and 26; Col. 10, Lines 5-12).

As to claim 8, Andersson et al disclose that the method of generating frequency hop sequences is to ensure that not more than one base station will use the same channel at any time (Col. 9, Lines 3-5; Col. 10, Lines 1-3).

As to claim 9, Andersson teaches a method of generating frequency sequences in a communications system for use in frequency hopping comprising obtaining a repetition distance value being greater than zero and less than a predetermined number of frequencies (Col. 9, f0-f7); obtaining a repetition distance value being greater than zero and less than a given number of frequencies and being a minimum number of hops between two occurrences of the same frequency in a frequency sequence (Col. 9, Lines 6-48; cited table in the previous actions,  $\Delta t$  and f0-f6); generating mutual orthogonal sequences simultaneously in vector form based on the repetition distance (cited table, f0-f6) see (Col. 9, Lines 1-47 and 63-67; Col. 10, Lines 1-5). One of ordinary skill in the art would clearly recognize that the elements of the matrix are represented in vector form, which is a form of mathematical representation, and since the pseudo random coding is used then the frequencies are generated simultaneously.

As to claim 10, Andersson teaches selecting initial values used in conjunction with generating mutual orthogonal sequences (Col. 9, Lines 35-44; Col. 10, Lines 1-5). One of ordinary skill in the art would clearly recognize that it is obvious that the frequency values at time zero are considered initial values see the reconstructed table in the previous action.

### ***Conclusion***

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone

Art Unit: 2631

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh N Aghdam  
January 3, 2006

  
**KEVIN BURD**  
**PRIMARY EXAMINER**